# EXHIBIT 5

# DECLARATION OF DR. GREG HIRTH

I, Greg Hirth, declare as follows:

1. I am the Vice President for Research at Brown University ("Brown") in Providence, Rhode Island. I have held that position since February 4, 2025, after serving as interim Vice President for Research starting in September 2024. I am also a Professor of Earth, Environmental, and Planetary Science, and a federally funded researcher. I have been on the faculty at Brown University since 2007.
2. As Vice President for Research, I have personal knowledge of the contents of this declaration, or have knowledge of the matters based on my review of information and records gathered by Brown University personnel, and could testify thereto.
3. Brown is a major research institution that receives funding from the National Science Foundation ("NSF"). This funding supports cutting-edge, multi-year research projects across the University.
4. In the 2024 fiscal year, Brown expended $34.4 million in grants from NSF to support nearly 250 projects in every scientific discipline represented by NSF.
5. Brown University intends to apply for new funding awards in the next year and in future years to come.
6. The NSF funding to Brown supports critical research that helps solve the most important problems of today and train the next generation of scientists who will maintain our nation's world-leading position in science for years to come.
7. NSF research leads to new discoveries that will help drive a vibrant American economy in the future. Examples of these critical NSF-funded research projects include the following:

a. Research funded by $1,276,092 from the NSF Major Research Instrumentation Development Program aims to develop a new 3D X-ray imaging system for research on small animals, such as mice. This new X-ray imaging system will make it possible to see 3D movement of the skeleton and measure actions of the muscles in live mice during natural behaviors. Data generated by the instrument will enable new lines of research in animal and human movement toward better treatments for muscular dystrophy, cerebral palsy, nerve injuries, and other movement disorders.

b. The Institute for Computational and Experimental Research in Mathematics (ICERM) is located at Brown University, and is supported through a $23,660,620 award from the Division of Mathematical Sciences of NSF. ICERM hosts collaborative research, bringing experts from across the country together to tackle problems using algorithms, computational experiments, and formal proof verification. Recent programs touch on phylogenetics, rigid frameworks and materials science, and graph algorithms for industry and basic research.

c. A $600,000 research project funded by NSF aims to significantly shorten the time it takes to plan collision-free paths for many robot systems. This work, which sits at the intersection of robotics and combinatorial optimization, will be instantly impactful to those communities, will significantly improve planning performance for many-robot systems, and thus will have far-reaching impacts in robotic warehousing and manufacturing, self-driving vehicles, autonomous delivery, and many other fields.

d. A $4,591,654 project funded by the NSF Established Program to Stimulate Competitive Research (EPSCoR) was crucial for training the next generation quantum science workforce. It contributed to the training of 91 participants from Brown (19 undergraduate students, 56 graduate students, and 16 post-docs) and a total of 145 participants across three institutions (Brown, Dartmouth College, and University of New Hampshire). More importantly, this grant trained students in a multidisciplinary approach to quantum science that includes condensed matter physics, material science and chemistry, quantum sensing, and quantum information. Such an integrated approach led to revolutionary results that include three pending patents; the development of novel quantum sensing techniques that, at a first glance, seem to defy quantum mechanics itself; and the development of techniques that enable quantum information processing at ambient conditions. Brown is pioneering this effort in the United States to train the workforce that can understand and drive forward quantum science; this effort extends well beyond making and characterizing qubits performance, activity that industry supports as well.

e. Research funded by $324,729 from NSF supports work to advance our understanding of the most damaging ground shaking from earthquakes, including from the geometrical complexity inherent in earthquake fault zones. Knowledge gained from this research will help enable the improvement of earthquake building codes and thus reduce risks from earthquakes.

f. Research funded by $15.7 million from NSF supports twenty-three NSF CAREER awards at Brown. An NSF CAREER award is a prestigious national recognition

that significantly benefits a faculty member's early career. It provides substantial, long-term funding to fuel ambitious research and innovative educational initiatives, enhancing the faculty member's reputation not only within the university, but also in the broader scientific community. This award strengthens the faculty member's tenure and promotion prospects, attracts top talent to their research, and supports their development as a leader and impactful teacher-scholar. It also enables the researcher to pursue impactful work, support personnel, and acquire necessary resources, leading to significant progress and potentially groundbreaking discoveries. Ultimately, it serves as a catalyst for significant career advancement and enables promising scientists to make more substantial contributions to their field and society.

8. Reimbursement of Brown's indirect costs is essential for supporting this research. The NSF's proposal to cut indirect cost rates to 15% would end or seriously jeopardize all of the research projects described in paragraph 7.

    a. For example, ICERM was launched in 2010 with a five-year $15.5-million grant from the NSF. In 2015, NSF awarded Brown a $17.5 million grant for an additional five years, and in July 2020, NSF awarded Brown a $23.7 million grant for an additional five years. Brown submitted a proposal in March 2024 that is currently pending at NSF for the next increment of 5-year funding for September 2025 through August 2030. If awarded at a reduced indirect cost rate, Brown and the principal investigator would be forced to consider how much of the proposed work could be supported.

b. Additionally, Brown has 109 pending proposals with NSF that have start dates beginning January 2025 through September 2025 (current federal fiscal year), and Brown has 21 pending proposals with start dates beginning in federal fiscal year 2026 (starting in Oct 2025), nearly all of which propose indirect costs at the current rate. If these are awarded at a reduced indirect rate, as with ICERM, Brown Brown and the respective principal investigators would be forced to consider how much of the proposed work could be supported.

9. Indirect costs support critical infrastructure throughout individual Schools and the University's central administration that are necessary to provide high quality services/ This critical infrastructure includes information technology, facilities operations and maintenance, student services, academic planning, and finance and human resources, as well as other aspects of general administration.

10. Physical facilities costs are one of the largest components of indirect costs. This includes not only the typical costs of constructing and maintaining buildings where research occurs, but the very high costs of outfitting and maintaining specialized laboratory space for NSF research, which can require availability of advanced HVAC systems for precise climate control, and specialized plumbing, electrical systems and waste management, as well as specialized laboratory equipment and research computing. The features and amount of space available to researchers have a direct and obvious impact on the nature and amount of research that can be done, and indirect costs are crucial to maintain these critical facilities.

a. For example, Brown's Engineering Research Center (ERC) houses several high-tech research labs and includes a Mass Spectrometry Lab and a Laser Lab. ERC's

labs host a large spectrum of research, including fluid mechanics, interfacial phenomena, microfluidics, nonlinear systems, soil and groundwater remediation, engineering nanomaterial fate and transport, and environmental toxicology. As new NSF grants that would support these labs are awarded throughout the year, a reduction in the indirect cost rate for NSF grants would almost immediately impact Brown's ability to maintain these cutting edge facilities.

b. As another example, the Prince Wind Tunnel at Brown enables researchers to improve aerodynamics through animal flight observations and analysis. It is one of the most advanced of its kind in the country and one of the largest in the world for animal flight study. Supported in part by NSF's Major Research Instrumentation program, the wind tunnel offers advanced capabilities such as speed, pressure, temperature controls, and particle image velocimetry. Maintenance and operation of the wind tunnel is costly and is supported by indirect costs received on NSF grants. A reduction in the rate for new NSF grants would have serious near-term impacts on Brown's ability to maintain and operate this incredible resource and, as a result, would likely curtail the NSF research projects that rely on it, including those that are currently pending award for this year.

11. In addition, indirect costs fund the administration of awards, including staff who support Brown's compliance with a vast number of regulatory mandates from agencies such as NSF. These mandates serve many important functions, including promoting research integrity; properly managing and disposing of chemical and biological agents and other materials used in research; managing funds; providing cybersecurity, data storage, and computing environments required for sensitive and regulated data; ensuring compliance

with specialized security protocols and safety standards; maintaining facility accreditation and equipment calibration to meet research quality and security standards; and preventing financial conflicts of interest.

12. Recovery of Brown's indirect costs is based on predetermined rates that have been contractually negotiated with the federal government. Through the 2027 fiscal year, Brown's predetermined indirect cost rate is 59.5% for research on campus.

13. The effects of a reduction in the indirect cost rate would be devastating. Setting the overhead rate of NSF-sponsored grants and contracts to 15% would disrupt Brown's research initiatives, operating budgets, personnel, core infrastructure, and communities, all of which depend upon the current rate of indirect cost recovery.

14. If—contrary to what Brown has negotiated with the federal government—the indirect cost rate was reduced to 15% for new awards, that would significantly reduce Brown's anticipated annual indirect cost recovery. For example, applying the 15% rate to the anticipated modified direct costs over the next five years, Brown's anticipated annual indirect cost recovery would be reduced by $11.25 million—from $9 million each year to $6.75 million. That is a conservative estimate based on research expenditure data alone that reflects a 25% difference in Brown's current rate and the NSF proposed rate. When using the University's Statement of Activities for its Fiscal Year 2024, and accounting for the full 75% difference, the likely reduction in the anticipated annual indirect recovery nearly triples to approximately $31.7 million over five years—from about $8.45 million each year to about $2.11 million.

15. This reduction would have deeply damaging effects on Brown's ability to conduct research from day one. Many of Brown's current research projects will be forced to slow down or

cease abruptly if Brown must apply for new awards at the 15% indirect cost cap. This will also necessarily and immediately result in staffing reductions across the board.

16. More specifically, a reduction in the indirect cost rate to 15% would require Brown to move very quickly to adjust its operations to absorb the loss of millions of dollars of expected revenue. That would include eliminating positions that support the research enterprise and facilities, such as administrators, research coordinators, lab managers, and security officers. Moreover, recruiting staff who have the specialized knowledge and technical experience to work on such projects is exceedingly difficult. Overall, this would significantly hamper the University's ability to conduct critical research projects, and in turn jeopardize its ability to contribute to the nation's scientific enterprise and security.

17. A reduction in the indirect cost rate would also threaten Brown's ability to train and retain the next generation of biologists, geologists, economists, social scientists, engineers, mathematicians, physicists, and chemists, to name just a few. This would in turn impact Brown's workforce and ability to be competitive in fields critical for our nation's advancement of technical innovation and security.

    a. Notably, the current approach to using universities to support NSF research—particularly fundamental research—involves impactful engagement with future scientists (e.g., undergraduate students, graduate students, and post-docs), and promotes the continued engagement of current scientists in a broad range of evolving topics. Moving the locus of this research to, for example, national labs, would undercut this environment that fosters a creative, innovative, and current workforce and that has consistently attracted scientists from around the world.

18. Brown has for decades relied on the payment of indirect costs. And, until now, it has been able to rely on the well-established process for negotiating indirect cost rates with the government to inform budgeting and planning. Operating budgets rely on an estimate of both direct and indirect sponsored funding to plan for annual staffing needs (*e.g.*, post-docs, PhD students, and other research staff), infrastructure support (*e.g.*, information technology networks, regulatory compliance, and grant management support), and facility and equipment purchases. This multi-year budgeting process also assumes the general pattern of the availability of awards and funding based on previous experience and at the negotiated indirect cost rate.

19. Importantly, like all research-intensive universities, Brown cannot make up for the resulting gap in funding because research is already highly subsidized by the University. Brown's full cost of research is significantly more than what is covered by sponsored direct costs and indirect cost recovery. In the 2024 fiscal year, for example, Brown's full cost of research was approximately $395 million, about $100 million more than the combined sponsored direct costs ($224 million) and indirect costs ($70 million) received from the federal government. Because Brown's federal awards cannot exceed 26% for administrative costs, all Brown's administrative costs above 26% go unrecovered and are subsidized by the University.

20. There is currently no other identified source of funds that Brown can utilize to continue supporting the current costs of conducting research. The University would have to significantly scale back the amount of research it conducts.

21. It has been suggested that Brown use its endowment to make up for these lost federal funds. The endowment provides an essential source of support for the University's financial aid,

faculty salaries, and academic and co-curricular programs and consists of over 3,800 unique funds that are legal contracts given as charitable gifts by alumni, parents, students, and friends of the University. These are restricted by law and purpose for their designated use, and cannot simply be reallocated.

22. The purpose of Brown's endowment is to support the mission of Brown in perpetuity. It is managed with a dual mandate to balance the competing demands of current operations and preserve purchasing power to support future operations.

23. Brown's annual endowment payout, or the amount distributed from the endowment to support each fund's designated purpose, is between 4.5% and 5.5% of the endowment value's 12-quarter trailing average, as approved by Brown's Corporation. Brown's current endowment payout is set to 5.5%, the highest payout currently allowed. Because all endowments are legally subject to the Uniform Prudent Management of Institutional Funds ACT (UPMIFA), the University's ability to increase this annual payout beyond the Corporation-approved range is limited. In short, Brown's endowment cannot make up for the significant gap in funding a reduction in F&A or total termination of NSF awards would create.

24. Stopping or slowing NSF-funded research not only impedes work in specific fields, but also necessarily causes America to lose its global competitive edge in emerging areas such as quantum computing, machine learning, advanced novel engineering materials, and biomechanics—today and in the future.

25. Without the opportunity to conduct this research, many of the most talented faculty will opt to leave Brown, and likely the United States, in pursuit of what could now become more promising positions elsewhere around the world. This brain-drain will inevitably

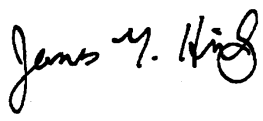
lead to lost opportunities to develop U.S. intellectual property, advance American security and innovation, create U.S. startup companies, and develop a workforce critical for the science and technical priorities of the current administration.

26. If Brown can no longer apply for NSF grants because it is unable to accept the new indirect cost rate cap, the harms described in this Declaration would be exacerbated. That greater loss in funding from NSF would mean more significant cost-cutting measures would need to be adopted—and quickly. Brown cannot "float" all of the indirect costs it would likely lose coverage for—nor could it "float" NSF grants altogether if it is not able to accept the 15% cap—so some research projects would need to be terminated altogether, and others would need to be scaled down or pared back significantly. The process of identifying these cuts would need to begin immediately, and layoffs, closures, and research pauses or contractions would follow soon thereafter.

27. Accordingly, implementation of a 15% cap for NSF awards will significantly and immediately compromise scientific advancement in numerous areas critical to the public interest and the advancement of key areas for American global competitiveness and security.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 7, 2025, at Providence, Rhode Island.



Greg Hirth, PhD
Vice President for Research
Brown University